SCIENTIFIC BASIS OF PROHIBITION.

ARGUMENT OF E. L. YOUMANS.

The following letter of Mr. Delavan, with the reply of Mr. Youmans, has been communicated to us for publication. The argument of Mr. Youmans will speak for itself.

LETTER OF MR. DELAVAN.

BALLSTON, Saturday, Sept. 15, 1855.

MY DEAR SIR: The views of the prohibitory question which you recently communicated to me in a conversation we had upon the subject I think if widely circulated would be of important service to the temperance cause. They cast the clear and certain light of science upon a grave question of private and public duty. In this country, where the people are the ultimate source of power, it is important that they be well acquainted with the principles which lie at the foundation of government and law. *These* men may change, but the truths of nature and science are unchangeable. I believe there never has been a time when the broad diffusion of correct views was so much demanded as in the present crisis of action. Your mode of treating the subject seems to me to open a new route of scientific demonstration to the prohibitory policy; it is just what is required, and I should be greatly obliged and I have no doubt thousands of others would also be glad if you would write it out as early as possible for newspaper and tract publication. Grateful for what you have heretofore done in developing the application of science to this important subject, I remain, my dear sir,

Very sincerely yours,

E. L. YOUMANS. EDWARD C. DELAVAN.

REPLY OF MR. YOUMANS.

DEAR SIR: I take the earliest opportunity which multiplied and pressing engagements will allow to comply with the request contained in your letter, and prepare a statement of some thoughts which seem to have an important bearing upon the present aspect of the Temperance movement, and which (I think) have not been sufficiently pressed upon public consideration. The question presented is: "Shall Alcoholic "Liquors as common beverages be commercially outlawed?" and we are required to determine what there is about them in relation to the human constitution which demands that their sale shall be prohibited. I propose to show that there is a part of man's physical organization upon which his mental nature depends, and which is therefore the real foundation of all society and government; that Alcoholic Liquors, when drank, seek out this portion of the bodily system in preference to all others, and so disorganize it as to disturb the mind, pervert the conduct and invade the responsibility; that their properties in these respects are so peculiar and remarkable as to separate them widely from all other substances in nature and art, and confer upon government a right of control over them which is necessary, fundamental and absolute.

Of Alcohol itself, little need be said. Its scientific history has been thoroughly canvassed, and no question is better settled than that of its origin and nature. It comes into existence through the chemical destruction of food, and is that common and active principle of all fermented and distilled liquors which gives them the power of producing intoxication. It is hence both customary and proper to employ the term *Alcohol* when its various mixtures are referred to.

Before considering the way man is affected by this agent, it will be necessary that we direct attention to certain fundamental facts concerning the nature of his constitution. Before we can understand how a machine is acted upon by any foreign influence we must first have a somewhat distinct idea of the mechanism itself. In this case it is of extreme importance; and I may, therefore, be pardoned for first calling attention to certain facts and laws of the human structure.

OFFICES AND RANK OF DIFFERENT PARTS OF THE STRUCTURE.

If we ideally take the human system to pieces, we shall at once discern the uses of its leading parts. The bony framework is designed to support it in firmness and strength, and the elastic muscles to throw it into movement. As the production of force involves waste of matter, or decomposition of the parts in action—a gradual perishing of the living atoms—there is needed a circulatory system to distribute new matter to all parts, and to take up and carry away the products of change which are constantly formed. This requires a digestive system for the preparation of nutriment. A heart is needed to impel and regulate the vital current, and lungs to supply air to the body, its oxygen being the motive power of animal life. In addition to these organs, there is still another part of the fabric, the specific purpose of which is not at first so obvious.

The upper portion of the head is occupied by a mass of matter which differs in aspects and qualities from all other parts of the system. It is not hard and resisting like the bones, nor firm and contractile like the muscles, nor hollow and receptive like the stomach, nor spongy and porous like the lungs. It is clearly different in nature and uses from all other parts, and yet it is evidently of the first importance. Situated at the summit of the body, it overlooks all the other and subordinate portions; superior in position, we suspect it is also superior in consideration; surrounded and guarded by a strong bony case, its protection is apparently a matter of the first necessity; connected with all parts of the body by a complex and curious system of minute threads or lines, it is in some way intimately associated with the general action of the mechanism.

I refer to the brain, which is inclosed within the skull. It consists of a large sheet of nervous matter which is packed within the bony cavity so as to crumple it, and cause folds and convolutions and consequently hollows and furrows. Anatomists say that, when taken out and soaked, it may be unfolded or dilated out, so that the convolutions disappear; and that then it has a surface of more than six hundred square inches. The weight of the brain in the adult male ranges usually from forty to sixty ounces, the average being about fifty ounces. The heaviest healthy brain is sixty-four ounces, and the lightest about thirty ounces, although in idiots it sometimes falls as low as twenty ounces. The brain, like all other parts of the system, contains innumerable circulatory vessels, and is filled with blood; but it differs from them in this, that it receives a very much larger share of blood than any other equal portion of the organism. Although its average weight is to that of the body, but as one to thirty-six it receives, according to different authorities, from one-fifth to one-tenth of all the blood which is sent from the heart. An arterial torrent rushes into it, and a venous stream flows out of it continually. These decompositions or changes in the blood, therefore, which give rise to force, go forward in this organ with rapidity, so that, whatever may be its uses, it is evidently an engine of power.

The brain is well known to be the center of bodily sensations; the seat of the will; the residence of the intellectual and moral attributes of man; the point at which the spiritual and material worlds blend and unite. The soft, pulpy sheet, so curiously folded away in the cavity of the skull, and which is kept constantly flooded with bright, arterial blood, is the material structure that God has prepared as the organ of thought. How mind and matter are joined—how the immortal spirit, during the life-period of its being, dwells, and can only dwell, in the ever-changing cerebral fabric, is an inscrutable mystery. Nevertheless, such is the fact. We know nothing of mind except as bound up with matter in the brain, and in this alliance there arises an intimate dependence of the former upon the latter—of the mind upon its material organ. Bodily conditions exert a powerful influence over mental feelings, conceptions and states, independent of the will. In fainting, there is a transient suspension of the circulation, and hence a temporary pause in the flow of blood through the brain, and the mind disappears in unconsciousness. Sir Astley Cooper checked the vital current in the arteries that led to the brain of a dog, when the animal fell senseless; as the circulation was restored it revived. Bichat showed that the influence of the scarlet or arterial blood is necessary to the due performance of the cerebral functions. If dark colored or veinous blood be substituted for it, and transmitted to the brain by the arteries, the animal falls into a state of total insensibility. If, when a portion of the skull is removed, slight pressure be made upon the brain, mental paralysis instantly follows, and continues until the pressure is removed. A case is recorded where consciousness, which had been extinguished for six months, was restored by removing a small portion of the skull which pressed upon the brain. In fever, the blood acquires a diseased condition, and so disorders the brain as to replace the normal course of thought by the ravings and phantasms of delirium. Unusual rapidity of the flow of blood through the brain, or undue pressure within it, as in "determination of blood" or "congestion" disturbs the mind's action. Nitrous oxyd gas respired, so affects the brain as to arouse the mind into preternatural violence of action; while the respiration of carbonic acid gas, even in the small proportion often found in unventilated apartments, depresses and stupefies the mind in spite of the utmost effort of volition. The opinion is now generally entertained by the most eminent physiologists that derangement of mind involves disorder of its material instrument. Dr. Beck, in his medical Jurisprudence, says: "The causes of "insanity are usually divided into physical and moral, "or bodily and mental; but a separation of this kind "is not conducive to just views of the disease. In"sanity is essentially a bodily disease, and the moral "causes operate in producing it as they do in pro"ducing other complaints."

We gather from these, and numerous other facts of a similar nature which I have not space to mention, that when the mind acts naturally it is because the changes within the brain go on in a normal way, and that a perverted material organ produces corresponding derangement of mind. Accompanying every thought, each act of the recollection, or of the reasoning and imaginative and emotional powers, there is a certain kind and amount of material transformation which is essential to these mental acts; and any agent or force brought to bear upon the brain, which arrests or modifies or hinders these material changes, necessarily disturbs and perverts the mental operations. This fact of the essential dependence of mental processes upon cerebral mutations we are too much inclined to overlook. We regard the mind's acts alone, abstracted from all their conditions, separated from the corresponding material acts upon which they depend. We have such a habit of contrasting mind and matter—of considering them as separate and even antagonist forms of being—that we, as it were, detach our conceptions of mental existence and action from their vital connections. Habituated to conceive of mind in its final and highest destiny as disencumbered of matter, we neglect the inexorable fact that such is not its condition *here* and *now*. As children, when out at play, are utterly unconscious of that lever-action of bones, the contractility and spring of muscles, and the lightning dispatches that are continually flying in all directions over the nerve-wires from head-quarters to the hands, feet, tongue, lips, eyes, and the whole mobile and sensitive system, so we are all apt to forget that when we think, and hope, and reflect, and wish, and remember, and calculate, or exert the mind in any way, we are really spinning the wheel-work of that most complicated and wonderful of all machines, that masterpiece of divine invention, the human brain. I do not affirm that intellectual operations *originate* or *consist* in material changes of the brain, but only that, in the present state of existence, the mental principle cannot act except through its organ, by which such changes necessarily occur. The fact is undeniable that, in this stage of being, the Creator has so woven the mental element into brain-tissue that the former cannot work except through the latter and in accordance with its laws.

Let us consider the practical import of these facts: A man, for example, moving free in society discharges his duties and regulates all his conduct properly. We at once refer this course of action to his will and say that *he chooses* it. This is true, but it is not the whole truth. That right action of his mind rests for its basis upon a sound brain—that is, a brain in such a condition of harmonious and rapid physiological change as makes this course of thought and action possible. In another instance he may take advantage of his liberty to commit wrong and inflict injury upon others, and we then attribute his course to a *depraved* will. But here again we must go further back to that state of the mind's organ which permitted the freedom of choice, for the liberty of volition depends upon a proper condition of the instrument of thought. Or, in still another instance, brain-derangement may annihilate the free action of the voluntary faculties, and drive the insane individual to destructive deeds, for which he is not to be held responsible. In all these cases the final basis of individual action is the condition of the organ of thought. Government by means of law prescribes in certain respects a course of action for the citizen, and appeals to certain motives as inducements to it. It promises the protection of natural rights as a consequence of obedience to law, and threatens punishment as the result of its violation. Government thus makes its appeal to mind; and we hence say that it *rests* upon mind—that its foundation is the responsible intelligence of its subject. This is quite true; but we must go deeper. Government is built upon responsible mind, and that in turn depends upon cerebral conditions. Hence states of the material brain become the real foundations of government. Its true basis is that which holds and sustains the intelligent nature of man in its harmony and integrity.

There is a class of persons who are destitute of brains, or, rather, they have only a part of the organ, just sufficient to regulate and control the animal life. They have no intellectual brain; their minds are therefore low and fragmentary, and we call them *idiots*. Now, within the constitution of an idiot there is nothing which government can reach so as to make him its subject. There is a deficiency of that portion of the organism upon which government is based; and it therefore, in this case, has no basis. The idiot is simply an animal lacking that organic part which, when superadded, confers intelligence, responsibility, and subjection to law. Or though the brain of an individual may have been formed perfect, if from any cause it becomes disordered, so that the mind can no longer use it, the relation of such person to society is at once dissolved, all moral obligations and legal demands upon him cease, and he passes beyond the limit of social and civil accountability.

These facts disclose the relative rank of different parts of the human body. Each has its importance; but there is an infinite difference in their respective values. The organs are all bound together by such ties of sympathy and mutual dependence as to constitute a harmonious unit; but when any one becomes disordered, so as to interrupt or defeat its peculiar action, we behold at once the wide gradation of their offices. If the bones be broken, the body is no longer supported; if the muscles be paralyzed, motion is impossible; if the lungs are disordered, respiration becomes affected; or if the stomach, there is disturbed digestion. Yet all this is but a perversion of the subordinate machinery of the human constitution. If disease fastens upon the organ of mind, there is dethronement of the intellect, and a total wreck of manhood. God and man—religion, government, and all the multiform relations which cluster around the intelligent being—are blotted out of existence, for we know nothing of these except by rational and coherent ideas, which are impossible if the temple of thought be thrown into tumult and disorder. The bodily system of man may thus be contemplated as an indivisible whole in its subjection to physical laws, but is divisible into two widely different portions in respect of the purposes it serves. The first consists of the apparatus of animal life, and this is made subservient to another and more sacred part, devoted to nobler objects, and to which appertains whatever is glorious and godlike in man's nature—a part which controls the citizen in the whole circle of his private and public responsibilities, in which, therefore, society and government have an especial and peculiar interest—upon which, indeed, they rest as a foundation.

LAW BY WHICH AGENTS ACT UPON DIFFERENT PARTS OF THE CONSTITUTION.

I call attention now to an important physiological law, according to which foreign substances affect the bodily constitution. The first action of the system upon the various nutritive materials which are designed to nourish it is, by means of the digestive process, to prepare a uniform homogeneous liquid, which is to circulate through all its parts. This liquid, the blood, contains the elements necessary to form all the structures of the body. The nutrition of these parts, therefore, consists in taking out of the circulatory current and appropriating those special elements which each tissue requires. There is no one part which demands all the constituents of the blood in its growth: it therefore only withdraws such elements as it needs; other parts of the body taking the rest. Nutrition, therefore, involves a kind of vital analysis of the sanguinary fluid, and the local appropriation of its constituents. For example: where the bones are required to grow, compounds of lime are withdrawn from the blood; the muscular tissues select from it compounds containing sulphur, and the nervous tissue those containing phosphorus. And so each individual secretion and part—tears, saliva, gastric juice and bile, as well as ligaments, tendons, hair, teeth and nails—each separates from the blood at some particular place just those peculiar ingredients which are necessary to form it. Local attraction for chemical substances in the bodily system is thus the fundamental law by which the living mechanism is perpetuated.

Now, this physiological ordinance is not confined to nutritive substances; it governs also the destination of medicines. Everybody understands that, to combat diseases in various parts of the fabric different medicines are resorted to which will take effect upon the different diseased parts. Medicines swallowed and absorbed into the circulation, or applied externally and imbibed by the tissue, enter the revolving stream and are thence drawn out and lodged in parts which have for them a special attraction. The highest authority in *Materia Medica*, Dr. Pereira, says: "The "specific operation of medicines after their absorp"tion on particular organs is well known." Indeed, eminent medical authorities, as Eberle, Dunglison and others, have made the action of remedies upon different parts of the system the basis of their classifications. Thus, one group has a specific action on the intestinal canal; another upon the respiratory organs; and others upon the circulatory, muscular and nervous systems. Then there are subdivisions based upon the mode of action of each part. One class of remedies acts upon the blood; some upon its corpuscles and others upon its plasma; some to thicken and others to thin it, and others to affect it in still different ways. To such an extent is this law of localization carried, that not only do medicines select particular organs, but (as Dr. Carpenter observes) their action is often limited to particular spots upon the organ.

Now, precisely the same law of local attraction which governs nutriment and medicines controls also the physiological action of *poisons*. Poisonous agents are drawn by special affinities to particular parts, upon which they produce their morbid, disorganizing or fatal effects. An English writer of high authority in toxicology, Dr. Christison, says: "Poisons are commonly, but I conceive erroneously, said to affect re"motely the general system. A few of them do, in"deed, appear to affect a great number of the organs "of the body; *but much the larger proportion seem,* "*on the contrary, to act on one or more organs only,* "*and not on the general system.*" Thus for example, arsenic in poisonous doses attacks and inflames the mucus membrane of the alimentary passages; strychnine takes effect upon the spinal cord, and lead fastens upon the muscles of the wrist, paralyzing them and producing what is known among painters and white-lead manufacturers as *wrist drop*. The disturbance occasioned by the poisonous agent may not be confined to a single part; yet, under the action of this fundamental law of the constitution, the tendency of poisons is to seek out and fasten upon particular portions of the organism which first and most directly suffers from their action.

With this hasty analysis of the relative value of various parts of man's constitution, and of the law under which they are acted upon by foreign agents, I proceed to examine the manner in which it is affected by Alcohol.

All alcoholic liquors, when drunk, pass into the stomach as a matter of necessity, this being the route of introduction for liquids and solids to the general system. But they do not long remain in this organ, for their presence there would speedily and utterly arrest the digestive process. "It is a remarkable fact," says Dr Dundas Thompson, "that Alcohol, when added to "the digestive fluid, produces a white precipitate, so "that the fluid is no longer capable of digesting ani"mal or vegetable matter." This precipitation is the coagulation of the *pepsin*, an essential element of the gastric juice. Those distinguished physiologists Todd and Bowman, in their late work, say: "The use of "alcoholic stimulants also retards digestion by coagu"lating the pepsin, and thereby interfering with its "action. Were it not that wine and spirits are rap"idly absorbed, the introduction of these into the "stomach *in any quantity* would be a complete bar "to the digestion of the food, as the pepsin would be "precipitated from solution as quickly as it was "formed by the stomach." Alcoholic mixtures are, therefore, promptly absorbed; they penetrate the tissues of the stomach, and are quickly launched into the circulation

ALCOHOL ATTRACTED TO THE NERVOUS SYSTEM—IT IS A BRAIN DISORGANIZER.

The question now is, after Alcohol has passed into the vital stream, and thus gets free course through the general system, what then becomes of it? Under the influence of the great physiological law to which I have referred, what is its destiny? To what part of the organism is it first and chiefly attracted? It is the nervous system, and especially its great controlling center, the brain, that is singled out and becomes the the chief focus of its ravages. This is a truth acknowledged and beyond dispute. For while it is a matter of notorious observation that spirituous liquors, when drunk, have a tendency to "fly to the head," as is evinced by the prompt mental disturbance which they produce, the dissector shows that the organ of mind is the rallying-point of palpable disorganization and disease, and the ablest apologists of Alcohol also bear explicit testimony to the fact. A late able writer in *The Westminster Review*, who has attempted a scientific defense of Alcohol, recognizes fully its special relationship to the nervous system, "*by its great affinity and* "*the selective eagerness with which it acts on that tis*"*sue.*" In a controversy which you had some years since with Dr. Hun of Albany upon the question of stomach diseases induced by Alcohol, your adversary affirmed that "*it is on the nervous system that its most* "*terrible effects are produced.*" That Alcohol has been extracted from the matter of the brain after death by intoxication, is a well-established fact; and repeated instances are on record where it has been taken from the cavities (ventricles) of that organ in sufficient strength to be set on fire and burn with its characteristic blue flame. Alcohol has been obtained from the brain several days after the victim's death, and it has been found in the cerebral substance when it could not be detected either in the ventricles of the organ or in any other part of the body. But cases in which the action of Alcohol upon the *human* brain can be directly or satisfactorily studied are, from the nature of things, rare and accidental. For the thorough and accurate exploration of the subject, therefore, resort has been had, as in the elucidation of many other important physiological problems, to experiments upon the inferior animals. We are indebted to Dr Percy of Edinburgh for a course of experimental inquiries of this kind which completely settle the question and verify the conclusions drawn from observations upon the brain of man. He destroyed the animals by injecting strong Alcohol into the system, and then subjected to analysis the brains and other parts to detect the presence and proportion of the poison. The result of his investigations was not only that Alcohol was drawn to the brain by special attraction, but that it existed rather in the cerebral substance than in the vessels of the organ. He says: "Although I have subjected to analysis a "much greater quantity of blood than can possibly "be present within the cranium, yet I *have in general* "*been enabled to procure a much larger proportion* "*of Alcohol from the brain than from all this quantity* "*of blood.* He hence infers the existence of an "*affin*"*ity between Alcohol and the cerebral matter.*"

Now it can hardly be necessary to state that Alcohol is an agent of such active and powerful qualities that it cannot be diffused through the cerebral tissue without giving rise to profound disturbance. I have stated that the brain is a laboratory of the most rapid vital changes, upon which its functional exercise depends. A substance of the energetic affinities and fiery irritant nature of Alcohol cannot enter the theater of these transformations without producing active interference. We know that the direct action of Alcohol upon the tissues is that of a disorganizing poison, and, when lodged within the brain, this must be its kind of effect, whatever may be its degree. By its eager attraction for oxygen and its extreme inflammability, ranging in this respect high above all normal aliments, it produces an unnatural intensity of vital combustion, and consequently excitement, exhilaration and increased action throughout the system. By robbing the arterial blood of its oxygen, it changes it prematurely to the veinous condition, and contributes, as was long since shown by Dr. Prout, to the unnatural retention of carbonic acid within the body. Thus, by the direct action of Alcohol disseminated through the substance of the brain, and by the altered condition of the blood which it induces, disease of the organ becomes inevitable. Accordingly, it is found that upon *post mortem* examination of the bodies of inebriates the brain exhibits conspicuous traces of the deleterious agent in the shape of enlargement of the vessels and thickening of their coats; watery and bloody effusions; enlargement of the membranes; preternatural softening and pulpy disorganization of the cerebral texture, with various other morbid appearances. In one case where death was suddenly produced by an excessive quantity of rum, the brain presented bloody spots, and the cavities were loaded with blood, although the stomach was natural.

THE DISORGANIZER OF THE MIND'S ORGAN IS ALSO A DISORGANIZER OF THE MIND ITSELF.

Physiologists are agreed that different parts of the brain are devoted to different uses. The first effect of Alcohol is upon its higher and frontal portion, which is the seat of the intellectual and moral faculties. This part of the brain is excited by a small quantity of liquor; and when more is taken, it becomes more deeply perverted, and the hinder and lower portion of the organ, which controls the nerves of motion, is attacked, and the individual loses the faculty of perfectly governing or regulating the bodily movements. When a still greater quantity is drunk, the action of that part which is devoted to the higher sentiments seems utterly suspended; the power of voluntary motion is lost, and the poison passes downward to the extreme lower portion of the organ, which is connected with the spinal cord, and has charge of the respiratory process. The breathing is thus interfered with, and becomes heavy and labored, as we see in dead-drunkenness. When death occurs in these cases, it is because this part of the brain becomes so deeply poisoned as to stop respiration. These effects show that Alcohol is not diffused uniformly through the brain, but takes effect successively upon its several parts.

Now if Alcohol acts thus unequally upon the mind's organ, it must of course act in the same manner upon the mind itself. Its first effect through the brain upon the mind is to stimulate or excite it to increased action; but this effect is far from being a general and equal invigoration, or uniform strengthening of all the mental powers: it is on the contrary a partial and unequal action which is subversive of their harmony. Alcohol takes sides with one portion of the mental constitution against another. Perhaps the highest attribute of mind is the power of voluntary control which it has over itself, by which disturbing forces are held in check, and its energies may be stedfastly directed to a continuous train of thought or a difficult subject of investigation. Now, the effect of liquor is by no means to give increased strength in this direction. It neither imparts fixedness to the purposes, nor persistency to the will, nor the power of rigid subjection over the passional nature. Its effects, on the contrary, are all in the opposite direction. The more volatile faculties, the imagination and ideal powers, are quickened under its influence to excessive exertion, and go off into spontaneous bursts of wit, humor and fancy. There are brilliant corruscations of thought, and a blaze of imaginative pyrotechny. But this artificial tumult of the mind is not favorable to the calm and sober exercise of the graver faculties. As the spontaneous or automatic activity of the mind, occasioned by brain-stimulation, is increased, there is a decrease of its self controling, self-regulating power. The mind cannot serve two masters; just in proportion as it is surrendered to the influence of an external force, which invades it through the brain, it ceases to be in its own keeping. With the sparkle and effervescence of alcoholic excitement, there is a weakening of the regulating and restraining forces by which the mind manages its own movements, a partial loss of that voluntary control over the mental operations, which, as Dr Carpenter remarks, "must be regarded as an *incipient stage of* "*insanity.*" At the same time, the lower passions and propensities are aroused to inordinate activity. In healthful mental conditions, these press powerfully upon the higher controlling sentiments, and from their reaction results moral equilibrium of character. The influence of Alcohol is thrown entirely into the scale of the animal impulses, against the reason, judgment and conscience; and it is evident that, where these are just able to hold the baser passions in subjection and maintain the mind's equipoise, the effect of the disturbing agent must be to destroy the mental balance and tell disastrously upon the conduct. That, when liquors are taken in sufficient quantity to produce their characteristic and desired effect, the mind is in some way jostled and disturbed, no observing person can doubt; that this disturbance, however trifling it may be, consists in replacing the reasoning and voluntary powers by blind passional forces in the mind's government, is proved by the fact that, if more of the stimulant be taken, the revolution becomes complete; reason is entirely prostrated, and brute impulse is in the ascendant. In intoxication the action of the brain is so deeply perverted as completely to unhinge the mind; thought is confused and bewildered; self-directing power is lost; the passions are stimulated to unrestrained fury, and the whole mental fabric is swamped amid the surges of delirium. Intoxication is universally admitted to be a state of temporary insanity. To "intoxi"cate," says Webster, is "to excite the spirits to a "kind of delirium; to elate to enthusiasm, frenzy or "madness." That such is the effect of *alcoholic* liquors is shown by the fact that they are universally known as "*intoxicating* liquors." Thus the common term by which they are designated connects them at once with man's mental constitution as a cause of frenzy, delirium and madness.

In ordinary intoxication the insane paroxysm is transient, ceasing when the provocative has exhausted itself, or is burned away and expelled from the system. Yet mental quietude is by no means immediately regained; the billows continue to roll after the storm has passed. Exhaustion and prostration follow the high-wrought excitement. The intellectual powers are torpid; the temper is sour and irritable; the passions morbidly excitable; and the craving for more of the stimulant to arouse the depressed energies is almost irresistible. That the habitual or frequent plying of the brain and nervous system with this fiery agent, even though not taken in excessive quantities, should interfere with their healthy nutritive changes, and give rise to a more permanent form of mental disorder, is what might well be expected and what experience sadly confirms. There is a class of horrible maladies of the nervous system, involving the most melancholy perversions of mind, which are directly produced by this cause. In some instances the delirious excitement continues and greatly increases after the immediate effects of the liquor have passed away. This is the case with what is termed *Delirium Ebriosum*, or drunken madness, which is marked, among other symptoms, by an ungovernable and furious violence of temper. In *delirium tremens*, or delirium with tremblings, the mental perturbation is characterized by the most distressing anxieties and agonizing apprehension of injury and danger. The victim is under the influence of frightful illusions, sleeping or waking. His passions, particularly those of fear, jealousy and anger, have "an uncontrollable mobility; "his desires and aversions are equally morbid, and the "will displays a wild and sleepless energy of action." A common hallucination is that of being haunted by fiends and demons, and of feeling snakes, spiders and vermin crawling over the naked flesh. Under the influence of these horrible delusions, the victim often flies to suicide, or kills others in fancied self-defense. *Delirium tremens* is simply the result of disordered brain-nutrition. It may be brought on by habitual tippling, many having been attacked by it who were never positively drunk. It may be the result of the nervous exhaustion which follows a debauch, or it may occur from want of liquor, the brain being so completely perverted as to be incapable of anything like regular action except under the influence of the stimulant. *Dipsomania* is a kind of paroxysm or mania brought on by drinking, in which the individual is consumed by an overwhelming passion for stimulants. He is driven to seek them by the most headlong and resistless impulses, which make him reckless of all consequences.

The use of Alcohol not only engenders these special forms of delirium and mania, but it is the most active of all the sources of settled mental derangement. Dr. Beck, in enumerating the causes of insanity, mentions first "*repeated intoxication*," and the statistics of lunatic asylums show that from ten to twenty, and in some cases even fifty per cent of all the cases recorded were directly traceable to the use of Alcoholic Liquors. Predisposition to insanity, as is well known, is hereditary. Conditions of nervous weakness and brain-disease are transmissible; and so, too, is the peculiar condition of the nervous and cerebral system of the drunkard. **It is a fact of terrible import, that the inebriate transmits to his offspring that peculiar disordered state of the nervous mechanism which causes a craving for the stimulant—he bequeaths a ready-made constitutional appetite for alcoholic poison. The habitual drunkard also transmits** to his children strong tendencies to insanity and idiocy. In a report on idiocy made by Dr. Howe to the Legislature of Massachusetts, we find the following astounding statement: "The habits of the parents of three hundred of the "idiots were learned, and a hundred and forty-five, or "nearly *one-half*, are reported as known to be habitual "drunkards!" Such parents, it is affirmed, "give a "lax constitution to their children, who are conse"quently deficient in bodily and vital energy, and "predisposed by their very organization to have crav"ings for alcoholic stimulants. Many of these chil"dren are feeble and live irregularly. Having a lower "vitality, they feel the want of some stimulation. If "they pursue the course of their fathers, which they "have more temptation to follow and less power to "avoid than the children of the temperate, they add "to their hereditary weakness and increase the ten"dency to idiocy in their constitutions, and this they "leave to their children after them."

It is thus that Alcohol becomes a cause of endless evil. By its influence as a material substance upon the material brain, it poisons the fountains of action, so that obliquity of conduct, and every form of debasement, wretchedness and crime are the natural and expected consequences. It is the inveterate foe of the intellectual and moral principle in man. In all its numberless forms and in every quantity it is the potent adversary of mind. When alcoholic mixtures are are drunk, the very first effect that we perceive is a perverted action of the mental faculties. A small quantity does not finish the work, but it begins it. It is the quality of wheat to nourish the body; but a small amount will not completely produce this effect, nor even protect from starvation; still, the nature of all wheat, and every grain of it, is to nourish and strengthen. So also with Alcohol: a small quantity may not so poison the brain as to overthrow the intellectual fabric; still, such are its essential nature and tendency in every form and every drop. Its inroading effects upon mind are not restricted to the employment of excessive quantities; they follow from its common use. There is much said about the inoffensiveness of liquor when taken in trifling amount; but all this is little applicable to general practice. People do not take liquors in infintesimal doses. They drink them to produce a specific and positive alcoholic effect, and they demand and use enough for that purpose. Whatever may be said about "flavor," "aroma," "fruitiness," "body," "nutriment," or other secondary properties of intoxicating liquors if *alcohol* be absent, it is mockery to offer *these* in substitution. We must bear in mind that when a small portion of liquor is taken—as a glass of wine—it is not mingled with the mass of the blood and lost in the general system. This result is forbidden by the law of local affinity. The Alcohol is drawn out of the circulation into the nervous tissue, and the single dose, therefore, ceases to be insignificant. Although minute when compared with the whole body, it becomes powerful when concentrated upon a single organ. In the quantity, therefore, necessary to produce the agreeable exhilarating and stimulant effect for which it is used, Alcohol so deranges brain action as to violate the harmony of the mind. The feelings become excited and the temper irritable, so that the individual is easily "touched" and provoked to acts of impropriety and violence by causes which, under other circumstances, would be unheeded. Long before the speech thickens and the motions falter there is a firing of irascible passions which lead to the commission of numberless offenses, from two-edged utterances that wound the spirit to homicidal thrusts that destroy the body.

From the first point of mental dissonance onward through all the stages of intoxication, mania and madness become more and more clearly developed, until the man disappears and the demon takes his place. The change is one, as I have explained, that multiplies his vicious and criminal capacities. It is the universal testimony of those who have had most dealings with the perpetrators of crime—judges, police magistrates, sheriffs, jailors, prison-wardens, and others—that from four-fifths to nine-tenths of all the crime committed in society is done under the influence of Alcoholic Liquors. In the extent of the mischief and the completeness of the ruin they work upon the human character, these liquids are supereminent among all the discovered products of art or nature. There are other agents beside Alcohol which, when introduced into the human system, exert a special action upon the nervous tissues and brain, and through these upon the mind. Among such is Opium, which has been compared to Alcohol in its physiological influences; but, while it is perhaps equally seductive and insidious, there is this important difference in its effects—alcoholic intoxication has in it far more of violence and malignant passion. An eminent medical authority, Sir Benjamin Brodie, in a late work (Psycological Researches) says:

"The effect of Opium, when taken into the stomach, is not to stimulate but to soothe the nervous system. It may be otherwise in some instances; but these are rare exceptions to the general rule. The opium-taker is in a passive state, satisfied with his own dreamy condition while under the influence of the drug. He is useless, but not mischievous. It is quite otherwise with Alcoholic Liquors. When Bishop and his partner murdered the Italian boy in order that they might sell his body, it appeared in evidence that they prepared themselves for the task by a plentiful libation of gin. The same course is pursued by housebreakers and others who engage in desperate criminal undertakings. It is worthy of notice, also, that Opium is much less deleterious to the individual than gin or brandy."

BASIS OF THE DUTY OF GOVERNMENT.

In the light of these views the duty of government becomes evident. Its relation to those who drink intoxicating liquors is one of direct responsibility and power, and differs from that of voluntary societies or private persons. In urging upon individuals the considerations which should induce them to discontinue drinking, it is proper that we present the case in every aspect, and appeal to various motives. In stating that Alcohol selects the citadel of thought as the main point of attack in the human system, I by no means imply that its injuries are limited to this part. The whole constitution is liable to more or less embroilment and disease, and it is entirely appropriate to lay open to the inconsiderate the details and extent of the harm they are inflicting upon various organs of the system. But with Government it is different. It has no business to pry into the minutiæ of bodily ailments. There is a just jealousy of its encroachments in o departments of impertinent curiosity. In respect of many things appertaining to the management of the body, and which involve the maintenance or loss of health, men will not tolerate interference or dictation. The question, for example, how a person will manage his digestive and pulmonary affairs is a concern of his own with which Government has no right to intermeddle. Beyond general sanitary measures for the preservation of public health and protection from causes of contagion, the legislature has no right of interposition. If by indulging in a bad quality of diet or over-eating, a man chooses to inflict upon himself stomach or liver disease, or if he so deal with air, clothing or heat as to engender colds, inflammations, lung complaints and rheumatisms, he has the sovereign privilege of so doing without governmental molestation or disturbance. The evil consequences in these cases are presumed to be confined to himself; he can do as he lists with his own. If in like manner, by the use of Alcohol, a man inflames and ulcerates his stomach, or degenerates his kidneys, or granulates his liver, the matter is purely private, into which the lawmakers have no right of scrutiny, and over which they have no authority of prevention.

But this rule does not apply to man's *entire* constitution. There is a part of the body in which, as I have stated, Government has a legitimate and especial concern. It is not a private affair of the individual, and a matter of indifference to Society if the human brain be in health or disease. When this organ is in order the man is capable of contributing his due support to the fabric of Society; but when it works badly, he becomes the victim of headlong and irresistible impulses; he is no longer amenable to the tribunals of Society as a rational being, and Government places him under restraint as dangerous to the community. That material part, therefore, which is the basis of a man's outward and public relations, is not his private, individual matter to be managed and dealt with as he likes. The question of its treatment and condition in any particular case is an affair of vital moment to each and to all. It is emphatically a *public* concernment. In a certain sense the brain of man belongs to Society. If he adopt any course by which its offices are disturbed or its purposes thwarted, the community is at once affected, and Government, in virtue of its very existence, which, so far as the individual is concerned, is annihilated in the subversion of his reason, and in virtue of its high obligations to protect the rights of all, is imperatively and solemnly bound to interfere. The minor derangements of the human body it is not its province to notice; but invasions of the cerebral system, which revolutionize conduct and character, it cannot neglect without flagrant recreancy to its trust.

The right of Government to interdict the use of Intoxicating Liquors as beverages is, therefore the right to prevent the undermining of its own foundations—the central right of self-defense and self existence. I have shown that Alcoholic Liquors, by their preëminent malign action upon the brain and mind, tend to disrupt all civil relations. The obedient citizen they transform into a reckless and turbulent violator of law; they are thus the natural enemies of Government, and should be so treated—the inspirers of lawlessness, their own fate should be outlawry. It is no impertinent or offensive interference with private personal concerns to interpose authority and prevent a man from turning himself into a fool, a maniac or a criminal. **The obligations of Government and the individual are reciprocal. Government owes to the individual protection of natural rights; the individual owes to Government obedience to law.** If the individual fail in fulfilling his part of the contract, it is the prerogative of Government to enforce compliance with it. If the citizen indulge in any habit which, in its nature, tends directly to disqualify him for the just discharge of his civil responsibilities, Government has the necessary right of interference to the utmost extent of its power. If the effect of Alcohol in the brain be to put a man beside himself and make him incapable of working out the tasks which belong to his manhood, it is the duty of Government to see to it that he do not alcoholize his brain. If the effects of these liquors be, as Science demonstrates and universal experience verifies, so to poison and pervert the springs of conduct that a thousand forms of evil result, if they weaken those sentiments and faculties by the exercise of which man is elevated, and educate and discipline to a more than natural strength the lower propensities by which he is degraded; if they so bind men in the spell of passion as to paralyze all self respect and noble exertion; if they change the man of work and thrift to an idler and vagabond; if they consume to ashes and cinders the affection of the husband and father, and scatter widowhood and orphanage right and left through the community; if they lift the floodgates of every form of vice and demoralization, peopling the lunatic asylums with the insane, the alms-houses with vagrants and paupers; filling the prisons with criminals, and causing the gallows to bend with its burden of malefactors, surely they fall within the legitimate scope of legislative management; and, if government is not a mockery, its control over them must be absolute, and adequate to the demands of the case. Indeed, to remove such obstacles as this to private safety and public prosperity is the very thing that Government is for. If its purpose be anything else than to furnish comfortable nestling-places for mousing demagogues; if it have any other aim than to attend to the collection of money and its disbursement among its own officials; if politics be anything more than a great game, to be played at by a few for their own selfish and ambitious ends, and the amusement and excitement of the people; if, on the contrary, Government be an instrument for the accomplishment of a good beyond itself; if it be an institution endowed with full and responsible power to protect the rights and regulate the relations and promote the welfare of its citizens; if politics be truly the vocation of earnest-minded statesmen, who seek to address themselves manfully to the problem of human improvement—then does the present question, in all its vital bearings, fall within the domain of legislative adjustment.

But it is pure folly to attempt to raise the question of governmental authority in this case. The legislature is driven to action by a necessity that it cannot escape. It has no option, but *must act*. The influence of Alcohol over human conduct is an inexorable fact, which Government can neither deny nor ignore. The question is not really whether it will or will not act, but simply *what kind* of action it will take. It attempted to manage the subject long ago, as the policy of legal license bears witness. Let us see how that method worked:

The License system applied the principle of Prohibition to the mass of people. It forbade ninety-nine in a hundred to deal in alcoholic liquors. Whatever injustice or oppression or violation of rights is contained in the principle of Prohibition, the bulk of the people experienced many years since. Still, in the case of a few, Government contradicted the principle which it enforced on the many. All that was offensive in governmental restrictions it inflicted upon the great majority of the citizens, and then crowned the act by opening wide the sluices of the trade, and granting to a favored few a monopoly of the profits. But, at the same time that it distinctly affirmed the Prohibitory principle, what was the import of its action—or rather *counter*action—in opening the business to a small number? Governmental license of the sale of intoxicating liquors as beverages is equivalent to governmental consent to their *use* as such. In permitting, for a consideration, the sale of these liquors, and in demanding what it assumes can be obtained—men of proper moral character to engage in the business—Government sanctions the purposes for which the sale is made, and thus indorses, legally and morally, the habit of drinking. Now, habits of drinking naturally lead to habits of intoxication. Fermented liquors long since vindicated their claims to the title of *intoxicating* liquors. The use of these stimulants naturally grows upon men, until in very numerous cases it overmasters them. Government, therefore, in extending to the traffic in alcoholic liquors its specific sanction, indorses its legitimate consequences—drinking, intoxication, moral vitiation and subversion of reason. Pliny said, seventeen hundred years ago, of wine, "it is a liquor which "deprives man of the use of his reason, renders him "furious, and is the cause of an infinite variety of "crimes." The License system makes provision for the unrestricted supply, to all who desire them, of substances which are characterized by such effects. If it thus consent to these effects, is it not, therefore, responsible for them?

Government, through its License policy, says to the citizen: "You want liquor to drink; we believe you "should have it for this purpose, and accordingly "qualify a retailer, who will furnish it. We provide "the means for you to supply yourself with intoxicat"ing drinks in a legal way and of a 'good moral' "dealer." The citizen drinks; he drinks for the pleasure, exhilaration and excitement, and for no other purpose. But the Alcohol works its natural effect—intoxicates, and makes him furious; and in a drunken paroxysm he takes the life of another. He is arraigned for murder and pleads innocence before the judge. He says: "I am guiltless of that which "alone constitutes the essence of crime—the evil "*intention*, the *malice prepense*. Killing is not mur"der; it must be preceded by the proved murderous "intent. There is and can be no other measure of "crime than criminality of *purpose*. I did not delib"erately plan the deed, and I bore no malice to the "deceased. Of the transaction I have no recollec"tion; the violence must have been committed dur"ing the frenzy of intoxication. Alienation of mind "impairs responsibility; I plead innocence on the "ground of insanity." Now, what is Government to do? it is in a dilemma. Shall it convict where the vital element of crime is wanting? or shall it acquit? and thus declare the countless array of misdeeds which spring from the use of Alcohol to be uncriminal and undeserving of punishment? If the latter, Where does it stand? It has given its indorsement to the general use of Alcohol, and by holding excused all who commit misdemeanors under its influence it must itself take the responsibility. It invited its prisoner to the act which produced the crime; if it now discharge him it must stand in his place as the guilty party. To avoid this it decides to convict, and declares the prisoner guilty. But upon what basis? Government replies, through its judge: "You cannot "be allowed to plead insanity in extenuation of your "crime, for that condition was voluntarily brought on. "It would be a dangerous doctrine to excuse you on "such ground, as every culprit would plead intoxica"tion in apology for overt acts. You has no business "to be under the influence of Alcohol; the courts "hold that 'drunkenness is in itself a crime,' and he "'who alleges it as an excuse attempts to take ad"'vantage of his own wrong;' you are to be held ac"countable for all acts done in that state; you see to "what Intemperance has brought you;" and, after reading the wretch a homily upon bad habits, he orders him away to the cord of the strangler. Can such a proceeding be dignified with the name of justice? Did not the convict procure the crime-inciter at the place which Government had provided to dispense it? Did Government teach the criminality of drinking when it employed and empowered "good "moral men" to furnish the liquor? Did not the License system directly provide for that crime, lure to it, in a high sense, *legalize* it? Did Government not sow the seed, and then repudiate the fruit? By what right can it extend its sanction to the opening of a rum-shop, divide the profits with its manager, and then hang a man for the natural consequences of putting the establishment to the use for which it was designed?

I have assumed a case to make clear the principle, but it is hardly fiction. Such exact words may not pass between judge and culprit, but instances are continually arising in the courts where the facts would abundantly warrant the language. John Burnet and George Sornberger of Schoharie left the tavern of Solomon Pratt drunk. In this state Burnet killed Sornberger, and was tried and executed. Michael Sanford, counsel for the defense, said on the trial:

"The traffic in rum produced this unhappy result; hastened Sornberger unwarned to the tribunal of his Maker, deprived his wife of her chosen companion, his children of their earthly protector, and brought this prisoner, if he be executed, to an untimely death. It is an unrighteous law that commissions one class of men to deal out to another class an agent to produce crime, while at the same time it provides prisons and affixes penalties to punish all such offenses. I hate this law, and its miserable effects have led me for twenty years past to raise my voice in behalf of temperance. These landlords (commissioned by government) are themselves responsible for the crimes of their victims, and if their little burning hells were shut up, man might go to heaven."

How to deal with crime committed under the influence of Intoxication has long been a thorny problem for jurists. The rule which Government establishes, to make the drunkard responsible, is one which it applies to no other case. In many instances mental alienation is voluntarily incurred by habits which are entirely under under the individual's control; but Government does not go beyond the insanity itself to inquire into the nature of the cause which produced it. As Judge Story remarks: "Many species of insanity "arise from what, in a moral point of view, is a "criminal neglect or fault of the party—as from reli"gious melancholy, undue exposure, extravagant "pride; and yet such insanity has always been deemed "a sufficient excuse for any crime done under its in"fluence." The difficulty of Government in reference to the insanity produced by Alcohol springs from its double policy concerning that agent. Its language to the community, through the Licence system, is that drinking is necessary and proper; its language from the bench to the criminal is, that drinking is crime. To be consistent and straightforward it must do one of two things; either withdraw its sanction of the drinking habit or take away its penalties from the legitimate consequences of that habit. Let the legislature do its utmost to prevent men from making criminals of themselves, and it will then stand in a fairer relation to the question of their punishment.

The inconsistency of Government is equally palpable in other directions. While with one hand it aids in scattering the facilities of education, to encourage the growth and increase of mind, with the other hand it disseminates mental imbecility, idiotism, insanity, and every form of intellectual ruin. While it promotes the interests of agriculture and cheers on industry and the beneficent production of wealth, it at the same time consents to the wanton destruction of millions of bushels of grain every year, to be rotted and changed to a malignant poison to damage the brain of the thinker and paralyze the muscle of the laborer. Of those things it is impossible now to speak. I have confined my strictures chiefly to the influence of Alcohol in producing criminality because the most ultra stickler for the restriction of legislative power will admit that Government is entirely competent to deal with the question of crime.

The light which science casts upon the nature and power of the appetite for alcoholic liquors should affect the policy of legislation. It is a law of the constitution that any mode of activity which has once been strongly impressed on an organ or part, has a tendency to perpetuate itself. Thus a scar left after the healing of a wound, grows and assimilates nutritive material exactly as do the healthy neighboring parts; so that a scar which a *child* might have said to be as long as its finger, will still be as long as his finger when he becomes a *man*. "When the mode "of nutrition in any part has been altered by disease "there is frequently an obstinate tendency to the per"petuation of the same alteration; or, if the healthy ac"tion be for time restored, there is a peculiar tendency "to the removal of the morbid process in the part; "and this is stronger the more frequently it occurs, "until at last it becomes inveterately established."

Now, in conformity with this physiological law, there can be no doubt that the frequent presence of Alcohol in the brain so modifies the nutrition of the organ as to lay the foundation of a morbid requirement in the *cerebral structure itself*, while the brain, as it were, *grows* to that state of mind which the poison induces. The demand for Alcohol thus become intrenched in the very tendencies of organic reproduction. Dr. Ray, in his excellent work, "The Medical "Jurisprudence of Insanity," remarks:

"Obviously, as those pathological changes (of the brain) are the effect of a long continued voluntary habit, there is strong evidence in favor of the idea that they in turn become efficient causes, and act powerfully in *maintaining* this habit even in spite of the resistance of the will. So deplorably common has drunkenness become in this country that there are few who have not seen the melancholy spectacle of the most powerful motives, the most solemn promises and resolutions, a constant sense of shame and danger, bodily pain and chastisement, the prayers and supplications of friendship, of as little avail in reforming the drunkard as they would be in averting an attack of fever or consumption. With a full knowledge of the dreadful consequences to fortune, character and family, he plunges on in his mad career, deploring, it may be, with unutterable agony of spirit the resistless impulse by which he is mastered."

Undoubtedly many have been reclaimed from intoxicating courses by influences powerfully applied to the judgment and conscience; but how small the proportion compared with those upon whom such influences have proved ineffectual! For twenty-five years the civilized world has been plied with proofs of the injurious effects of alcoholic liquors. The press has flashed its omnipresent light into all minds until the consent to temperance doctrines is universal. But what avails these world-wide theoretic admissions of truth so long as they are perpetually contradicted in practice? Anthems of praise rise everywhere to abstinence and sobriety; but look at the statistics of the consumption of liquor! Men's judgments are right, but they are trampled in the dust by triumphant and unchallenged passion. We remonstrate, but the candid reply to us as one *did* reply: "My good friends, "your remarks are just; they are indeed too true, but I "can no longer resist temptation. If a bottle of brandy "stood at one end and the pit of hell yawned at the "other, and I were convinced that I should be pushed "in as soon as I took one glass, *I could not refrain.*" These considerations explain to us how it is that great numbers of persons who are enslaved to the habit,